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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/790,316

03/01/2004

Richard A. Haase

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EXAMINER

NGUYEN, HOANG M

ART UNIT

PAPER NUMBER

3748

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/790,316	<b>Applicant(s)</b> HAASE, RICHARD A.	
	<b>Examiner</b> Hoang M. Nguyen	<b>Art Unit</b> 3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 May 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 216, 218-220, 223-229, 231, 232, 235, 237-253 and 258-350 is/are pending in the application.
- 4a) Of the above claim(s) 261-341 and 343-349 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 216, 218-220, 223-229, 231-232, 237-253, 258-260, 342, 350 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

Applicant's amendment dated May 4, 2009, has been fully considered.

The affidavit under 37 CFR 1.132 filed May 4, 2009 is insufficient to overcome the rejection of claims based upon the rejection based on 35 USC 103 as set forth in the last Office action because: It refer(s) only to the system described in the above referenced application and not to the individual claims of the application. Thus, there is no showing that the objective evidence of nonobviousness is commensurate in scope with the claims. See MPEP § 716.

The Declaration of Mr. Colin Francis Walker has been considered but fails to overcome the 103 rejections because it refers mostly to the referenced application, .e.g, paragraph 7 states "there is no known method of apparatus to combust hydrogen with a pure form of oxygen without storage of oxygen"; paragraph 9 states "combust a pure form of hydrogen with a pure form of oxygen", these are not parts of the independent claims, and maybe new matter. Furthermore, the declaration does not provide any actual proof, supportive evidence (note MPEP 716.01(c)), and simply repeat the argument of Applicant which is improper because Applicant arguments cannot take place of evidence, MPEP 716.01(c). The declaration only mentions the applied references in paragraph 15 with a conclusion "I do not find this prior art cited by the Patent Examiner to have made the pending claims within US Patent application 10/716,316 as obvious", the statement is simply an opinion or a conclusion without any supportive evidence, or simply repeats Applicant's arguments during prosecution which is given little weight.

The Examiner has noted many times before that even though Applicant and/or the Declarant provide evidences in the Declaration, the Examiner must weight the evidences before making final determinations, MPEP 716.01(d). In this case, there is no supportive evidence at all, and therefore, the declaration is not found persuasive.

Applicant argued Performis et al does not disclose the new limitation "creation steam and mechanical rotating energy to drive the air separation unit" in the newly amended claim 216. The Examiner strongly disagrees. Performis clearly discloses on the last two lines of his abstract, and on column 6, lines 1-9, that the mechanical power is used to drive a compressor 2 of the air separation unit to reduce power consumption of the air separation system 4. This clearly meets the claimed limitations as noted by Applicant.

Applicant further argued that independent claim 216 does not disclose flue gas as in Performis et al. Please note Performis et al is not relied upon to teach the flue gas as argued, but to teach an air separation unit which can be different types of air separation units, and the power output of a steam turbine is used to drive said air separation unit. Please note again Applicant should not attack the references individually but must consider the rejection as a whole. Also, the fact that Performis et al teaches more element than the claimed invention (the flue gas) meaning the claims are

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properly rejected, the rejections are improper only if the references fail to teach any element in the claimed invention.

Other arguments have been well addressed in the prior Office Action, and the Examiner would like to repeat his rejection as follows.

Applicant argued the Examiner cites the MPEP section 716.02(e) is about the claimed range. The Examiner disagrees because the claimed range section does not belong to MPEP section 716.02(e) but to the preceding section 716.02(d). Nevertheless, all sections are under MPEP 716 can be used to treat the affidavit under 37 CFR 1.132. Again, the Examiner would like to repeat the following paragraph from the previous Office Action. Applicant argued the declaration under rule 312 is directed to the claimed invention, not the invention. The Examiner strongly disagrees. First, Applicant simply provides his own argument, this is improper, but he must provide argument, Applicant's argument cannot replace evidence in affidavit 312, note MPEP 716.01(c). Second, the declarations fail to compare the claimed subject matter with the closest prior art as required in MPEP 716.02(e), it's unclear how Applicant can jump to a conclusion that his declaration could overcome the pending rejections without providing any comparison with the prior art, or any opinion about the rejection in the declaration. Third and most importantly, even assuming *arguendo* that the declaration meet all the requirements that provide evidences, comparison with prior art, opinions about the pending rejections, the

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Examiner still needs to use his judgment of a person having ordinary skill in the art to make his decision.

Applicant is also noted in the MPEP 716.04, there is a statement that "Although the claimed invention achieved the .... to do so". It's very clear that the claimed invention must be considered, not the whole specification. Applicant can't file a declaration under 1.132 for the whole invention, then recite broad claims and expect the case to be allowed.

Applicant argued Penfornis does not disclose the combustion of a hydrogen fuel and it would not have been obvious to combine the references. The Examiner disagrees because Applicant attempts to attack the references individually in a 103 rejection which is improper. Tindell already teaches the concept of burning hydrogen. Penfornis does not need to show that concept again.

Applicant argued there is no motivation to combine the references. The Examiner disagrees. It's very clear in the rejection that using the air separation unit in Tindell can have the advantage "for the purpose of more effectively forming oxygen for the combustion process, and to reserve power input because of the power feedback".

Applicant argued Penfornis needs a heat exchanger and his invention does not need that. Please note if the references teach more than the claimed invention, then

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the rejection is still valid. The rejection is not valid only if the reference does not teach the claimed invention.

Applicant argued it's impermissible hindsight to combine the references. The Examiner disagrees. The modified feature is simply using air separation unit which is well known and taught in the secondary reference, Penfornis, and the rejections have been made with proper motivation, that is not hindsight reconstruction.

Regarding claim 242, Applicant argued Nambu requires a hydrocarbon alcohol. Please note that claim 242 simply recites either hydrogen or oxygen being mixed with frozen water to form gel. Nambu clearly teaches the hydrogel in frozen water under freezing temperature. It does not matter if Nambu needs to use hydrocarbon alcohol because as set forth above, if the reference teaches more than the claimed invention, the rejection is still valid.

Regarding other 103 rejections for dependent claims, Applicant did not really provide separate arguments. Also, most arguments have been well addressed in the previous Office Action. It's clear that those dependent claims should stand and fall with the independent claims.

The rejections have been maintained and this Office Action has been made FINAL.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 216, 218-220, 222, 224, 231, 235, 238-240, 243, 248-253, 258, 342, are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of U.S. 7062912 (Penfornis et al).

Tindell discloses a solar energy system comprising an electrolysis chamber 13 for forming hydrogen being stored in an hydrogen tank 22, oxygen being stored in an oxygen tank 21, a combustion chamber 33 for burning said hydrogen and oxygen, water input nozzle 31 for injecting water into the combustion chamber, said combustion chamber is then acting as a steam generator to generate steam to drive a steam turbine 47 to generate electricity through a generator 48. Tindell does not teach the air separation unit being powered partly by the combustion energy, the cryogenic air separation unit or membrane air separation unit. Penfornis et al discloses a system using an air separation unit 4 which can be cryogenic air separation unit, membrane separation unit, or adsorptive PSA or VSA (note column 5, lines 1-5), said air separation unit 4 forming oxidant gas 3 flowing into a combustion chamber (furnace 15), the exhaust flue gas 13 is used to heat a heat exchanger 19 to drive a steam turbine cycle, the output of the steam turbine 22 is used to drive said air separation unit 4 through a compressor 2, note abstract lines 10-12, Penfornis et al clearly states "The



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heated steam flows through a turbine to produce power. The power is transferred to the air separation unit, thus reducing a power requirement of the air separation unit needed to separate the air. It would have been obvious to provide an air separation unit (either cryogenic, membrane, or adsorption types) in Tindell as taught by Penfornis et al for the purpose of more effectively forming oxygen for the combustion process, and to reserve power input because of the power feedback.

Claim 223 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Penfornis et al and U.S. 6588212 (Wallace et al). Tindell as modified by Penfornis et al discloses all the claimed subject matter as set forth above, but does not disclose the use of nitrogen in a mixture of the combustion chamber. Wallace et al teaches it's well known to use nitrogen in a gas mixture before feeding into a combustion chamber to help increase power generation (note column 1, lines 23-32). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to provide nitrogen in Tindell as taught by Wallace et al for the purpose of increasing power generation.

Claims 225-227 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Penfornis et al and U.S. 5899072 (Gode). Tindell as modified by Penfornis et al discloses all the claimed subject matter as set forth above, but does not disclose the use of corrosion to form hydrogen. Gode is relied upon to disclose it's well known to use corrosion to form hydrogen (column 1, lines 36-

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49). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to form hydrogen by corrosion in Tindell as taught by Gode for the purpose of generating more hydrogen if needed.

Claims 231, 235 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Penfornis et al and U.S. 5516359 (Kang et al). Tindell as modified by Penfornis et al discloses all the claimed subject matter as set forth above, but does not disclose the use of air separation unit with membrane. Kang et al is relied upon to disclose it's well known to use air separation unit 107 with membrane 108 for separating air. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use an air separation unit with membrane in Tindell as taught by Kang et al for the purpose of separating air to form more important components if needed.

Claim 237 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Penfornis et al and U.S. 4440545 (Weidig). Tindell as modified by Penfornis et al discloses all the claimed subject matter as set forth above, but does not disclose the use of corrosion inhibitor. Weidig is relied upon to disclose it's well known to use corrosion inhibitor in a combustion chamber. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use corrosion inhibitor in Tindell as taught by Weidig for the purpose of inhibiting corrosion in the combustion chamber.

Claim 241 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Penfornis et al and U.S. 3975913 (Erickson). Tindell as modified by Penfornis et al discloses all the claimed subject matter as set forth above, but does not disclose the use of fuel cell. Erickson is relied upon to disclose it's well known to use fuel cell 1 to work in combination with an electrolysis chamber. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use fuel cell in Tindell as taught by Erickson for the purpose of generating the appropriate amount of hydrogen and oxygen.

Claim 242 is rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Penfornis et al and US 4664857 (Nambu). Tindell as modified by Penfornis et al discloses all the claimed subject matter as set forth above, but does not disclose the use of gel storage. Nambu discloses the concept of freezing a hydrogel with water content of 20-92% into a storage vessel (note abstract), column 11, lines 27-31, clearly discloses the frozen water, column 10, lines 34-35, discloses the freeze-molded gel. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use gel storage in Tindell as taught by Nambu for the purpose of more effectively storing the elements.

Claims 259-260, 350, are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Penfornis et al and US 6212876

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(Gregory et al). Tindell as modified by Performis et al discloses all the claimed subject matter as set forth above, but does not disclose the jet propulsion rocket. US 6212876 (Gregory et al) teaches a rocket propulsion engine using combustion engine. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use jet propulsion rocket in Tindell as taught by Gregory et al for the purpose of driving rocket if needed (note it's well known to use combustion engine such as gas engine to produce thrust in aircraft/rocket design).

Claims 244-247 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 4841731 (Tindell) in view of Performis et al and U.S. 6698183 (Thordarson). Tindell as modified by Performis et al discloses all the claimed subject matter as set forth above, but does not disclose the use of flywheel and transmission. Thordarson is relied upon to disclose it's well known to use flywheel 176 and transmission 178 for transmitting power from a combustion chamber/engine 22. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use flywheel and transmission in Tindell as taught by Thordarson for the purpose of transmitting power output of the combustion engine.

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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Nguyen whose telephone number is (571) 272-4861. The examiner can normally be reached on Tuesday--Friday from 12:30 AM to 10:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Hoang M Nguyen/  
Primary Examiner, Art Unit 3748

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PRIMARY EXAMINER  
ART UNIT 3748

Hoang Minh Nguyen  
6/8/2009